



SEQUENCE LISTING

<110> LI, Shyr-Jiann et al.

<120> ISOLATED MONKEY CATHEPSIN S PROTEINS,  
NUCLEIC ACID MOLECULES ENCODING MONKEY CATHEPSIN S PROTEINS,  
AND USES THEREOF

<130> CL001507

<140> 10/809,816

<141> 2004-03-26

<160> 11

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 1798

<212> DNA

<213> Cynomologous monkey

<400> 1

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<210> 2  
<211> 331  
<212> PRT  
<213> Cynomologous monkey

<400> 2  
Met Lys Gln Leu Val Cys Val Leu Leu Val Cys Ser Ser Ala Val Ala  
1 5 10 15  
Gln Leu His Lys Asp Pro Thr Leu Asp His His Trp His Leu Trp Lys  
20 25 30  
Lys Thr Tyr Gly Lys Gln Tyr Lys Glu Lys Asn Glu Glu Ala Val Arg  
35 40 45  
Arg Leu Ile Trp Glu Lys Asn Leu Lys Phe Val Met Leu His Asn Leu  
50 55 60  
Glu His Ser Met Gly Met His Ser Tyr Asp Leu Gly Met Asn His Leu  
65 70 75 80  
Gly Asp Met Thr Ser Glu Glu Val Met Ser Leu Met Ser Ser Leu Arg  
85 90 95  
Val Pro Ser Gln Trp Gln Arg Asn Ile Thr Tyr Lys Ser Asn Ala Asn  
100 105 110  
Gln Ile Leu Pro Asp Ser Val Asp Trp Arg Glu Lys Gly Cys Val Thr  
115 120 125  
Glu Val Lys Tyr Gln Gly Ser Cys Gly Ala Cys Trp Ala Phe Ser Ala  
130 135 140  
Val Gly Ala Leu Glu Ala Gln Leu Lys Leu Lys Thr Gly Lys Leu Val  
145 150 155 160  
Ser Leu Ser Ala Gln Asn Leu Val Asp Cys Ser Thr Glu Lys Tyr Gly  
165 170 175  
Asn Lys Gly Cys Asn Gly Gly Phe Met Thr Arg Ala Phe Gln Tyr Ile  
180 185 190  
Ile Asp Asn Asn Gly Ile Asp Ser Asp Ala Ser Tyr Pro Tyr Lys Ala  
195 200 205  
Thr Asp Gln Lys Cys Gln Tyr Asp Ser Lys Tyr Arg Ala Ala Thr Cys  
210 215 220  
Ser Lys Tyr Thr Glu Leu Pro Tyr Gly Arg Glu Asp Val Leu Lys Glu  
225 230 235 240  
Val Val Ala Asn Lys Gly Pro Val Ser Val Gly Val Asp Ala Ser His  
245 250 255  
Pro Ser Phe Phe Leu Tyr Arg Ser Gly Val Tyr Tyr Glu Pro Ser Cys  
260 265 270  
Thr Gln Asn Val Asn His Gly Val Leu Val Val Gly Tyr Gly Val Leu  
275 280 285  
Asn Gly Lys Glu Tyr Trp Leu Val Lys Asn Ser Trp Gly Arg Asn Phe  
290 295 300  
Gly Glu Glu Gly Tyr Ile Arg Met Ala Arg Asn Lys Gly Asn His Cys  
305 310 315 320  
Gly Ile Ala Ser Phe Pro Ser Tyr Pro Glu Ile  
325 330

<210> 3  
<211> 330  
<212> PRT  
<213> Saimiri boliviensis

<400> 3

Met Lys Gln Leu Val Cys Val Leu Phe Val Cys Ser Ser Ala Val Thr  
1 5 10 15  
Gln Leu His Lys Asp Pro Thr Leu Asp His His Trp Asn Leu Trp Lys  
20 25 30  
Lys Thr Tyr Gly Lys Gln Tyr Lys Glu Lys Asn Glu Glu Ala Val Arg  
35 40 45  
Arg Leu Ile Trp Glu Lys Asn Leu Lys Phe Val Met Leu His Asn Leu  
50 55 60  
Glu His Ser Met Gly Met His Ser Tyr Asp Leu Gly Met Asn His Leu  
65 70 75 80  
Gly Asp Met Thr Ser Glu Glu Val Met Ser Leu Met Ser Ser Leu Arg  
85 90 95  
Val Pro Asn Gln Trp Gln Arg Asn Ile Thr Tyr Lys Ser Asn Pro Asn  
100 105 110  
Gln Met Leu Pro Asp Ser Val Asp Trp Arg Glu Lys Gly Cys Val Thr  
115 120 125  
Glu Val Lys Tyr Gln Gly Ser Cys Gly Ala Cys Trp Ala Phe Ser Ala  
130 135 140  
Val Gly Ala Leu Glu Ala Gln Leu Lys Leu Lys Thr Gly Lys Leu Val  
145 150 155 160  
Ser Leu Ser Ala Gln Asn Leu Val Asp Cys Ser Glu Lys Tyr Gly Asn  
165 170 175  
Lys Gly Cys Asn Gly Gly Phe Met Thr Glu Ala Phe Gln Tyr Ile Ile  
180 185 190  
Asp Asn Lys Gly Ile Asp Ser Glu Ala Ser Tyr Pro Tyr Lys Ala Thr  
195 200 205  
Asp Gln Lys Cys Gln Tyr Asp Ser Lys Tyr Arg Ala Ala Thr Cys Ser  
210 215 220  
Lys Tyr Thr Glu Leu Pro Tyr Gly Arg Glu Asp Val Leu Lys Glu Ala  
225 230 235 240  
Val Ala Asn Lys Gly Pro Val Cys Val Gly Val Asp Ala Ser His Pro  
245 250 255  
Ser Phe Phe Leu Tyr Arg Ser Gly Val Tyr Tyr Asp Pro Ala Cys Thr  
260 265 270  
Gln Lys Val Asn His Gly Val Leu Val Ile Gly Tyr Gly Asp Leu Asn  
275 280 285  
Gly Lys Glu Tyr Trp Leu Val Lys Asn Ser Trp Gly Ser Asn Phe Gly  
290 295 300  
Glu Gln Gly Tyr Ile Arg Met Ala Arg Asn Lys Gly Asn His Cys Gly  
305 310 315 320  
Ile Ala Ser Tyr Pro Ser Tyr Pro Glu Ile  
325 330

<210> 4

<211> 331  
<212> PRT  
<213> Homo sapiens

<400> 4

Met Lys Arg Leu Val Cys Val Leu Leu Val Cys Ser Ser Ala Val Ala  
1 5 10 15  
Gln Leu His Lys Asp Pro Thr Leu Asp His His Trp His Leu Trp Lys  
20 25 30

Lys Thr Tyr Gly Lys Gln Tyr Lys Glu Lys Asn Glu Glu Ala Val Arg  
     35                 40                 45  
 Arg Leu Ile Trp Glu Lys Asn Leu Lys Phe Val Met Leu His Asn Leu  
     50                 55                 60  
 Glu His Ser Met Gly Met His Ser Tyr Asp Leu Gly Met Asn His Leu  
     65                 70                 75                 80  
 Gly Asp Met Thr Ser Glu Glu Val Met Ser Leu Met Ser Ser Leu Arg  
     85                 90                 95  
 Val Pro Ser Gln Trp Gln Arg Asn Ile Thr Tyr Lys Ser Asn Pro Asn  
     100                105                110  
 Trp Ile Leu Pro Asp Ser Val Asp Trp Arg Glu Lys Gly Cys Val Thr  
     115                120                125  
 Glu Val Lys Tyr Gln Gly Ser Cys Gly Ala Cys Trp Ala Phe Ser Ala  
     130                135                140  
 Val Gly Ala Leu Glu Ala Gln Leu Lys Leu Lys Thr Gly Lys Leu Val  
     145                150                155                160  
 Ser Leu Ser Ala Gln Asn Leu Val Asp Cys Ser Thr Glu Lys Tyr Gly  
     165                170                175  
 Asn Lys Gly Cys Asn Gly Gly Phe Met Thr Thr Ala Phe Gln Tyr Ile  
     180                185                190  
 Ile Asp Asn Lys Gly Ile Asp Ser Asp Ala Ser Tyr Pro Tyr Lys Ala  
     195                200                205  
 Met Asp Gln Lys Cys Gln Tyr Asp Ser Lys Tyr Arg Ala Ala Thr Cys  
     210                215                220  
 Ser Lys Tyr Thr Glu Leu Pro Tyr Gly Arg Glu Asp Val Leu Lys Glu  
     225                230                235                240  
 Ala Val Ala Asn Lys Gly Pro Val Ser Val Gly Val Asp Ala Arg His  
     245                250                255  
 Pro Ser Phe Phe Leu Tyr Arg Ser Gly Val Tyr Tyr Glu Pro Ser Cys  
     260                265                270  
 Thr Gln Asn Val Asn His Gly Val Leu Val Val Gly Tyr Gly Asp Leu  
     275                280                285  
 Asn Gly Lys Glu Tyr Trp Leu Val Lys Asn Ser Trp Gly His Asn Phe  
     290                295                300  
 Gly Glu Glu Gly Tyr Ile Arg Met Ala Arg Asn Lys Gly Asn His Cys  
     305                310                315                320  
 Gly Ile Ala Ser Phe Pro Ser Tyr Pro Glu Ile  
     325                330

<210> 5  
 <211> 331  
 <212> PRT  
 <213> Canis familiaris

<400> 5  
 Met Lys Trp Leu Val Gly Leu Leu Pro Leu Cys Ser Tyr Ala Val Ala  
     1                 5                 10                 15  
 Gln Val His Lys Asp Pro Thr Leu Asp His His Trp Asn Leu Trp Lys  
     20                25                30  
 Lys Thr Tyr Ser Lys Gln Tyr Lys Glu Glu Asn Glu Glu Val Ala Arg  
     35                40                45  
 Arg Leu Ile Trp Glu Lys Asn Leu Lys Phe Val Met Leu His Asn Leu  
     50                55                60  
 Glu His Ser Met Gly Met His Ser Tyr Asp Leu Gly Met Asn His Leu

65	70	75	80
Gly Asp Met Thr Gly Glu Glu Val Ile Ser Leu Met Gly Ser Leu Arg			
85	90	95	
Val Pro Ser Gln Trp Gln Arg Asn Val Thr Tyr Arg Ser Asn Ser Asn			
100	105	110	
Gln Lys Leu Pro Asp Ser Val Asp Trp Arg Glu Lys Gly Cys Val Thr			
115	120	125	
Glu Val Lys Tyr Gln Gly Ser Cys Gly Ala Cys Trp Ala Phe Ser Ala			
130	135	140	
Val Gly Ala Leu Glu Ala Gln Leu Lys Leu Lys Thr Gly Lys Leu Val			
145	150	155	160
Ser Leu Ser Ala Gln Asn Leu Val Asp Cys Ser Thr Glu Lys Tyr Gly			
165	170	175	
Asn Lys Gly Cys Asn Gly Gly Phe Met Thr Thr Ala Phe Gln Tyr Ile			
180	185	190	
Ile Asp Asn Asn Gly Ile Asp Ser Glu Ala Ser Tyr Pro Tyr Lys Ala			
195	200	205	
Met Asn Gly Lys Cys Arg Tyr Asp Ser Lys Lys Arg Ala Ala Thr Cys			
210	215	220	
Ser Lys Tyr Thr Glu Leu Pro Phe Gly Ser Glu Asp Ala Leu Lys Glu			
225	230	235	240
Ala Val Ala Asn Lys Gly Pro Val Ser Val Ala Ile Asp Ala Ser His			
245	250	255	
Tyr Ser Phe Phe Leu Tyr Arg Ser Gly Val Tyr Tyr Glu Pro Ser Cys			
260	265	270	
Thr Gln Asn Val Asn His Gly Val Leu Val Val Gly Tyr Gly Asn Leu			
275	280	285	
Asn Gly Lys Asp Tyr Trp Leu Val Lys Asn Ser Trp Gly Leu Asn Phe			
290	295	300	
Gly Asp Gln Gly Tyr Ile Arg Met Ala Arg Asn Ser Gly Asn His Cys			
305	310	315	320
Gly Ile Ala Ser Tyr Pro Ser Tyr Pro Glu Ile			
325	330		

<210> 6  
<211> 330  
<212> PRT  
<213> Mus musculus

<400> 6			
Met Ala Val Leu Asp Ala Pro Gly Val Leu Cys Gly Asn Gly Ala Thr			
1	5	10	15
Ala Glu Arg Pro Thr Leu Asp His His Trp Asp Leu Trp Lys Lys Thr			
20	25	30	
His Glu Lys Glu Tyr Lys Asp Lys Asn Glu Glu Glu Val Arg Arg Leu			
35	40	45	
Ile Trp Glu Lys Asn Leu Lys Phe Ile Met Ile His Asn Leu Glu Tyr			
50	55	60	
Ser Met Gly Met His Thr Tyr Gln Val Gly Met Asn Asp Met Gly Asp			
65	70	75	80
Met Thr Asn Glu Glu Ile Leu Cys Arg Met Gly Ala Leu Arg Ile Pro			
85	90	95	
Arg Gln Ser Pro Lys Thr Val Thr Phe Arg Ser Tyr Ser Asn Arg Thr			
100	105	110	

Leu Pro Asp Thr Val Asp Trp Arg Glu Lys Gly Cys Val Thr Glu Val  
 115 120 125  
 Lys Tyr Gln Gly Ser Cys Gly Ala Cys Trp Ala Phe Ser Ala Val Gly  
 130 135 140  
 Ala Leu Glu Gly Gln Leu Lys Leu Lys Thr Gly Lys Leu Ile Ser Leu  
 145 150 155 160  
 Ser Ala Gln Asn Leu Val Asp Cys Ser Asn Glu Glu Lys Tyr Gly Asn  
 165 170 175  
 Lys Gly Cys Gly Gly Tyr Met Thr Glu Ala Phe Gln Tyr Ile Ile  
 180 185 190  
 Asp Asn Gly Gly Ile Glu Ala Asp Ala Ser Tyr Pro Tyr Lys Ala Met  
 195 200 205  
 Asp Glu Lys Cys His Tyr Asn Ser Lys Asn Arg Ala Ala Thr Cys Ser  
 210 215 220  
 Arg Tyr Ile Gln Leu Pro Phe Gly Asp Glu Asp Ala Leu Lys Glu Ala  
 225 230 235 240  
 Val Ala Thr Lys Gly Pro Val Ser Val Gly Ile Asp Ala Ser His Ser  
 245 250 255  
 Ser Phe Phe Tyr Lys Ser Gly Val Tyr Asp Asp Pro Ser Cys Thr  
 260 265 270  
 Gly Asn Val Asn His Gly Val Leu Val Val Gly Tyr Gly Thr Leu Asp  
 275 280 285  
 Gly Lys Asp Tyr Trp Leu Val Lys Asn Ser Trp Gly Leu Asn Phe Gly  
 290 295 300  
 Asp Gln Gly Tyr Ile Arg Met Ala Arg Asn Asn Lys Asn His Cys Gly  
 305 310 315 320  
 Ile Ala Ser Tyr Cys Ser Tyr Pro Glu Ile  
 325 330

<210> 7  
 <211> 322  
 <212> PRT  
 <213> Unknown

<220>  
 <223> consensus sequence

<400> 7

Met Lys Leu Val Cys Val Leu Val Cys Ser Ser Ala Val Ala Gln Leu  
 1 5 10 15  
 His Lys Asp Pro Thr Leu Asp His His Trp Leu Trp Lys Lys Thr Tyr  
 20 25 30  
 Gly Lys Gln Tyr Lys Glu Lys Asn Glu Glu Ala Val Arg Arg Leu Ile  
 35 40 45  
 Trp Glu Lys Asn Leu Lys Phe Val Met Leu His Asn Leu Glu His Ser  
 50 55 60  
 Met Gly Met His Ser Tyr Asp Leu Gly Met Asn His Leu Gly Asp Met  
 65 70 75 80  
 Thr Ser Glu Glu Val Met Ser Leu Met Ser Ser Leu Arg Val Pro Ser  
 85 90 95  
 Gln Trp Gln Arg Asn Ile Thr Tyr Lys Ser Asn Asn Gln Leu Pro Asp  
 100 105 110  
 Ser Val Asp Trp Arg Glu Lys Gly Cys Val Thr Glu Val Lys Tyr Gln  
 115 120 125

Gly Ser Cys Gly Ala Cys Trp Ala Phe Ser Ala Val Gly Ala Leu Glu  
 130 135 140  
 Ala Gln Leu Lys Leu Lys Thr Gly Lys Leu Val Ser Leu Ser Ala Gln  
 145 150 155 160  
 Asn Leu Val Asp Cys Ser Thr Glu Lys Tyr Gly Asn Lys Gly Cys Asn  
 165 170 175  
 Gly Gly Phe Met Thr Ala Phe Gln Tyr Ile Ile Asp Asn Gly Ile Asp  
 180 185 190  
 Ser Asp Ala Ser Tyr Pro Tyr Lys Ala Met Asp Gln Lys Cys Gln Tyr  
 195 200 205  
 Asp Ser Lys Tyr Arg Ala Ala Thr Cys Ser Lys Tyr Thr Glu Leu Pro  
 210 215 220  
 Tyr Gly Arg Glu Asp Val Leu Lys Glu Ala Val Ala Asn Lys Gly Pro  
 225 230 235 240  
 Val Ser Val Gly Val Asp Ala Ser His Pro Ser Phe Phe Leu Tyr Arg  
 245 250 255  
 Ser Gly Val Tyr Tyr Glu Pro Ser Cys Thr Gln Asn Val Asn His Gly  
 260 265 270  
 Val Leu Val Val Gly Tyr Gly Leu Asn Gly Lys Glu Tyr Trp Leu Val  
 275 280 285  
 Lys Asn Ser Trp Gly Asn Phe Gly Glu Gln Gly Tyr Ile Arg Met Ala  
 290 295 300  
 Arg Asn Lys Gly Asn His Cys Gly Ile Ala Ser Tyr Pro Ser Tyr Pro  
 305 310 315 320  
 Glu Ile

<210> 8  
 <211> 31  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> primer

<400> 8  
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<210> 9  
 <211> 38  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> primer

<400> 9  
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<210> 10  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> primer

<400> 10  
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28

<210> 11  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> primer

<400> 11  
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24